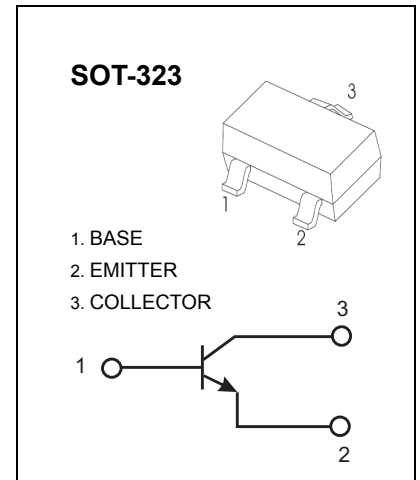


Features

- High Conductance
- Surface Mount Package Ideally Suited For Automatic Insertion
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical Data

- **Package:** SOT-323
Molding compound meets UL 94 V-0 flammability rating
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102



Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	80	V
Collector-Base Voltage	V_{CBO}	80	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	0.5	A
Collector Power Dissipation	P_C	0.2	W
Operation Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics (Ta=25°C unless otherwise specified)

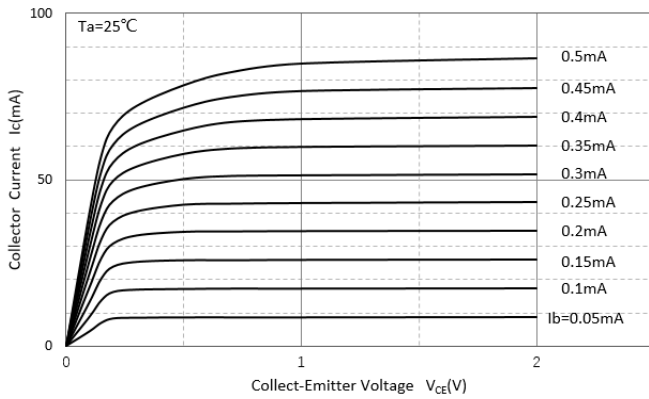
Item	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Voltage	V_{CEO}	V	$I_C=1mA, I_B=0$	80	
Collector-Base Voltage	V_{CBO}	V	$I_C=100\mu A, I_E=0$	80	
Emitter-Base Voltage	V_{EBO}	V	$I_E=100\mu A, I_C=0$	4	
Emitter-base Cut-off Current	I_{EBO}	μA	$V_{EB}=3V, I_C=0$		0.1
Collector -base Cut-off Current	I_{CBO}	μA	$V_{CB}=80V, I_E=0$		0.1
Collector -base Cut-off Current	I_{CEO}	μA	$V_{CE}=60V, I_B=0$		0.1
DC Current Gain	h_{FE}		$I_C=10mA, V_{CE}=1.0V$	100	400
DC Current Gain	h_{FE}		$I_C=100mA, V_{CE}=1.0V$	100	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=100mA, I_B=10mA$		0.25
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=100mA, I_B=10mA$		1.2

Small-signal Characteristics

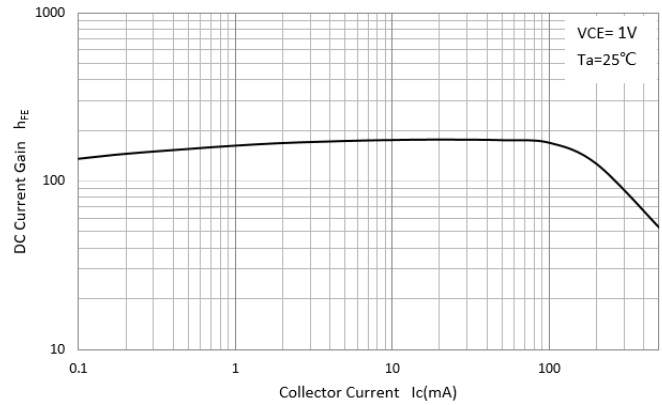
Item	Symbol	Unit	Conditions	Min	Max
Transition frequency	f_T	MHz	$I_C=10mA, V_{CE}=2.0V, f=100MHz$	100	

Characteristics (Typical)

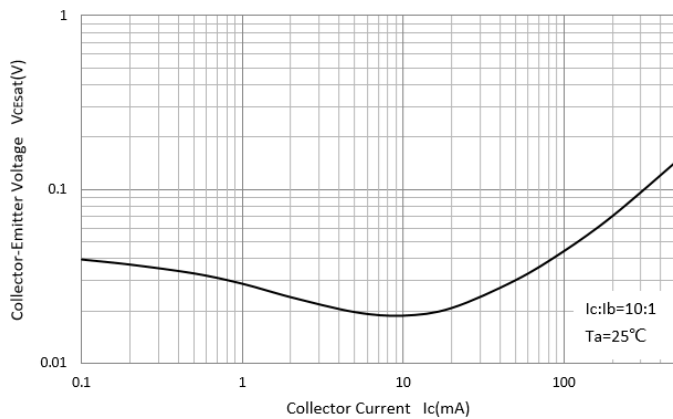
Static Characteristic



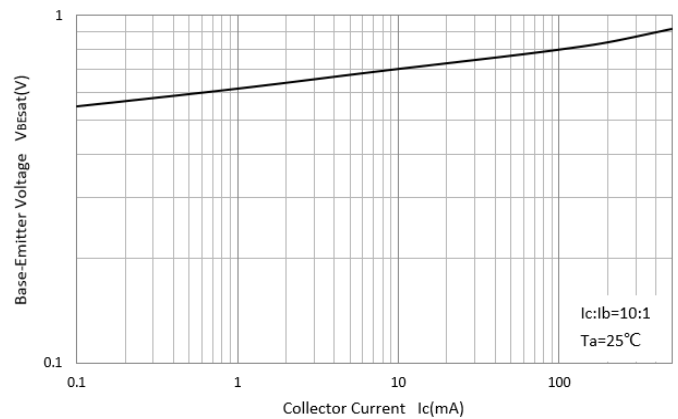
DC Current Gain



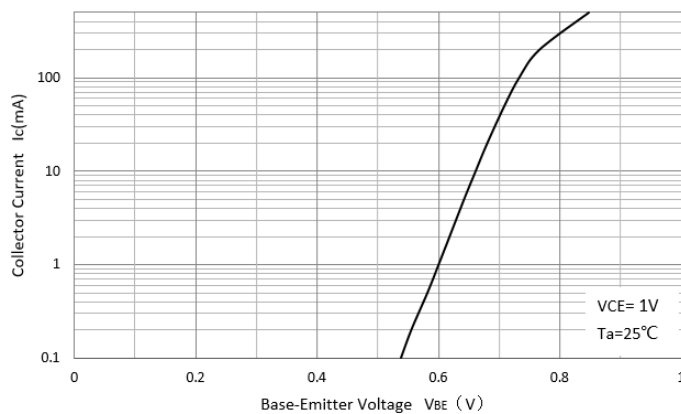
Collector-Emmitter Saturation Voltage



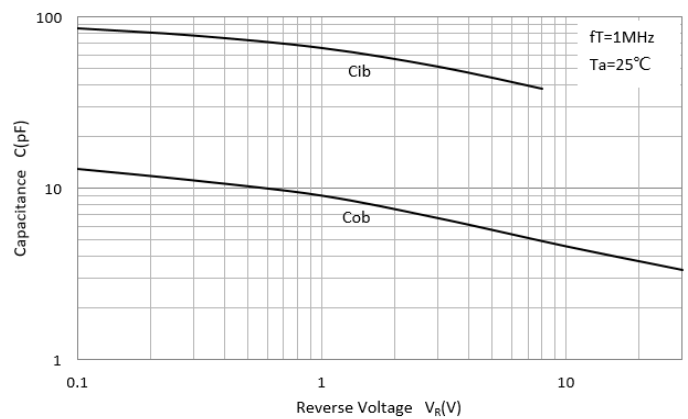
Base-Emmitter Saturation Voltage



Base-Emmitter On Voltage



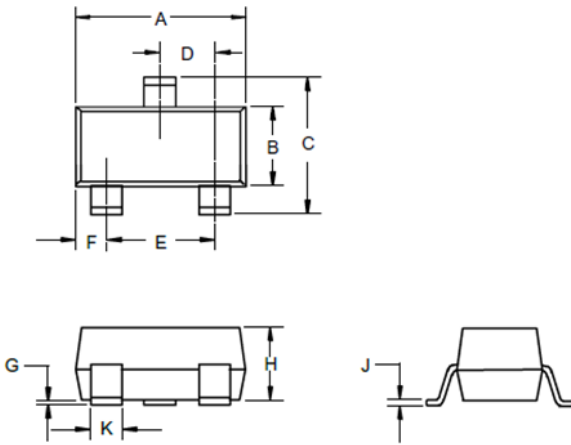
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$



Marking

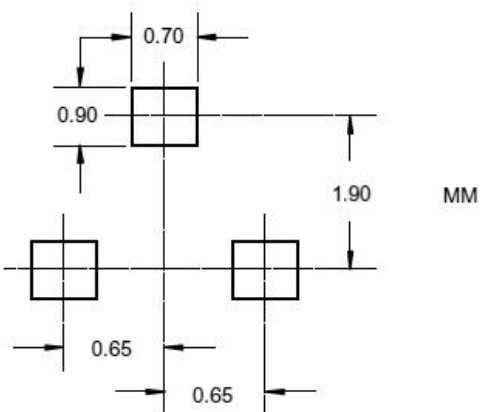
Type number	Marking code
MMSTA06-Q1	1GM

SOT-323 Package Outline Dimensions



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.083	.096	2.10	2.45	
D	.026 Nominal		0.65Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.006	.016	.15	.40	

SOT-323 Soldering Footprint



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.